EXHIBIT 2

Statement of Hammett & Edison, Inc.
Consulting Engineers

NBC Telemundo License Co. Proposed Exchange of Allotments: Phoenix and Holbrook, Arizona

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Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained by NBC Telemundo License Co. ("NBC Telemundo"), licensee of TV Station KPHZ, Channel 11, Holbrook, Arizona, and Class A TV Station KDRX-CA, Channel N48, Phoenix, Arizona, to prepare an engineering statement in support of its proposed redesignation of Channel 39, Phoenix, as a commercial allotment (presently used by non-commercial educational TV Station KDTP) and redesignation of Channel 11, Holbrook, as a non-commercial allotment.

High Use of Indoor Antennas by Hispanic Viewers

Presently, the Phoenix metropolitan area receives over-the-air Telemundo network programming from Class A TV Station KDRX-CA, Channel N48, Phoenix. Telemundo is one of the two major Spanish-language television networks in the U.S.[1] and Phoenix is the sixth largest Hispanic market in the U.S.[2] with about one-third of the total population being of Hispanic origin. The use of a Class A TV station having perhaps one-tenth the radiated power of a full-service NTSC station places the network at a technical disadvantage, and practically makes reception of the Telemundo network difficult or impossible for the many Hispanic viewers who rely upon indoor antennas for over-the-air reception.

A strong, reliable over-the-air signal is particularly important for reaching Hispanic viewers in the Phoenix area because these viewers are less likely to use cable television or direct broadcast satellite for television reception, tending to rely exclusively upon indoor receiving antennas for over-the-air reception. According to NBC Telemundo, Hispanic viewers in the Phoenix area have much lower cable penetration rates (only 24-30% among Phoenix Spanish-language television viewers compared with the Phoenix average for non-Hispanics of 62%).[3] NBC Telemundo commissioned an independent, professional telephone survey of Hispanic viewing patterns in Phoenix[4] that indicates greater use of indoor antennas by Spanish-dominant Hispanic viewers. The sample consisted of 500 Phoenix-area adults of Hispanic descent who live in households where Spanish is spoken at least half the time. The survey concluded that 41% percent of Spanish-dominant Hispanic television viewers rely on an indoor antenna for over-the-air television reception. Indeed, 55% of Spanish-dominant Hispanic television

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1 The other major network is Univision.

2 http://www.census.gov/population/www/cen2000/phc-t6.html ranks by Hispanic population the seven largest cities over 100,000 population (total) as New York City (all boroughs), Los Angeles, Chicago, Houston, San Antonio, Phoenix, and El Paso.

3 Percentages based on Nielsen research previously commissioned and reported by NBC Telemundo to Hammett & Edison, Inc., and a 2004 telephone survey commissioned by NBC Telemundo (see footnote 4). The Television & Cable Factbook, 2004 edition, indicates an overall penetration of 63.4% combined for the two Phoenix CATV providers.

4 WestGroup Research, Television Viewing Habits – Hispanic Adults in Phoenix, Arizona, November 19, 2004. Margin of error for study is reported as ±4.4% at a confidence level of 95%.

viewers who obtain television reception off-air claim that they do not watch Telemundo because of the weak signal from NBC Telemundo's KDRX-CA.

100 dBu or Greater Signal Level Appropriate for Indoor Viewing

The method for determining the required signal level to obtain a "passable" quality television picture has been reported many times.[5] [6] [7]

To overcome receiver noise:	
Thermal Noise (300-ohm impedance)	7 dBμV
Receiver Noise Figure	15 dB
Peak Visual Carrier/RMS Noise for "passable" quality picture	30 dB
Nominal Required Local Field Intensity	52 dBμV

To this nominal value are added factors to account for antenna gain, transmission line loss, and time and location variability. For example, the usual 80 dBu F(50,50) UHF "City Grade" coverage level assumes 5 dB of line loss, 8 dBd of antenna gain, a "dipole factor" of -16 dB, and a statistical factor of 15 dB to achieve F(90,50) reliability (*i.e.,* picture is of "passable" quality or better at 90% of the locations, at least 50% of the time). The sum of these factors, together with the nominal required local field intensity, is 80 dBμV/m (dBu).

The All Channel Receiver Act of 1962[8] required that all television receivers be able to receive both VHF and UHF channels comparably, and authorized the Commission to establish a maximum noise figure limit for UHF television receivers. The Commission codified this requirement (presently 14 dB) in Section 15.117(g) of the Rules, so the nominal required local field intensity might reasonably be reduced by one decibel from the historical values; therefore, 51 dBu is used for subsequent calculations.

For viewers in urban areas, the Commission has observed that the use of indoor receiving antennas, "rabbit ears" for VHF and loops for UHF, is often typical.[9] When indoor back-of-set antennas are used, some of these values must be adjusted and additional factors added, because the data from which

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5 "Utilization of Frequencies in the Band 470 to 890 Mcs. For Television Broadcasting," Notice of Further Proposed Rule Making, Docket No. 8976, FCC 49-948, released July 11, 1949.

6 Robert A. O'Conner, "Understanding Television's Grade A and Grade B Service Contours," IEEE Trans. Broadcasting, Vol. BC-14, No. 4, Dec. 1968.

7 Gary Kalagian, "A Review of the Technical Planning Factors for VHF Television Service," FCC/OCE Report RS-77-01, March 1, 1977.

8 Incorporated into 47 U.S.C. §303(s)

9 Docket 20802, "Amendment of Subpart E, Part 73, of the Commission's Rules and Regulations, to Permit Television Broadcast Stations to Employ Circular or Elliptical Polarization," Report and Order released April 14, 1977.

the propagation curves are based apply only to exterior conditions in suburban and rural areas.[10] The UHF loop antenna theoretically has 1 dBd gain at its resonance frequency[11] and no associated line loss, although actual UHF loop antennas may have substantially less gain (*e.g.*, about 25 dB less gain),[12] because of the narrow-band nature of this antenna type and the inexpensive construction and mounting techniques typically employed.[13] As a conservative assumption, the gain of a typical indoor UHF receiving antenna is taken to be –10 dBd. So, the required field strength for "passable" reception using a receiver having an integrated loop antenna elevated to 30 feet above ground becomes:

51 dBμV/m + 0 dB line loss + 16 dB dipole factor – (-10) dBd antenna gain + 15 dB reliability
= **92 dBu**

In the western U.S., 47.5% of all housing units are single-story, 38.5% are two-story, and 14% are taller than two-story,[14] so the majority of television receivers are not located 30 feet above ground. Indeed, the NBC Telemundo independent survey reported that 77% of the Hispanic respondents live in single-family homes, 14% live in apartments, and 9% live in "other" accommodations, so it seems clear that the vast majority of Hispanic viewers in Phoenix reside in structures of one or two stories. If the indoor receiver is assumed to be located at 10 feet above ground (the average for receivers in one- and two-story buildings, which would be 5 feet and 15 feet above ground, respectively), an appropriate height-gain adjustment is given by:

$$F_{hg} = 20\log\frac{assumed\_height}{actual\_height} = 20\log\frac{30}{10} = 9.5 \text{ dB}$$

So, the field strength required at 30 feet to produce a "passable" quality NTSC signal in an indoor receiver at the typical height of 10 feet becomes

92 + 9.5 = **101.5 dBu**

Additional factors might also be added to account for building penetration losses. Indeed, published data[15] indicate that the use of an indoor antenna requires approximately 30 dB greater signal strength to achieve system performance comparable to an outdoor system. There is, however, considerable

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10 FCC 49-948, Appendix B, p. 2.

11 Harris O. Wood, Report of Committee No. 1 (Technical Group) of the Committee for the Full Development of All-Channel Broadcasting to the FCC, February 1965.

12 R.D. Jennings, "Television Field Strength and Home Receiving System Gain Measurements in Northern Illinois," NTIA Report No. 81-68, March 1981. A median sample gain of –24.9 dBd was reported for indoor UHF antenna systems.

13 Wood, *ibid.*, Figure 26.

14 2002 Statistical Abstract of the US, Section 20: Construction and Housing, Housing Units--Characteristics by Tenure and Region: 2001. http://qrc.depaul.edu/TableListing.asp?n=20

15 W.R. Free, J.A. Woody, and J.K. Daher, "Program to Improve UHF Television Reception," Final Report – Georgia Institute of Technology Project A-2475 under Contract No. FCC-0315, September 1980, p. 11-6.

interaction between the building penetration loss and the statistical correction factor required to achieve F(90,50) reliability. Since it might be reasonably assumed that a viewer will place his TV set in a favorable location for reception, the building penetration factor is ignored in favor of the factor required to achieve statistical reliability. It should also be noted that Hammett & Edison, Inc. has for decades used signal levels of 90 and 100 dBu as design evaluation criteria, to account for service to indoor receivers.

Hispanic Coverage of KDRX-CA Substantially Less Than Full Service UHF Stations

There are seven full-service UHF NTSC stations that serve the Phoenix market. Based upon the use of a 101.5 dBu coverage level for indoor antenna reception, Hispanic population coverage from the Class A television facilities of KDRX-CA is expected to be much less than that of the median full-service UHF television station in the market. Therefore, Hispanic viewers in the Phoenix area would receive improved coverage of the Telemundo Network if that network were broadcast from a full-service UHF station instead of a Class A station.

To quantify this observation, the populations covered by KDRX-CA and the full-service UHF stations were projected using a terrain-sensitive propagation model. The coverage of TV stations is greatly affected by the nature of the terrain in which the station is located. In flat or gently rolling country, coverage extends approximately the same distance in all directions and is controlled mainly by the power radiated and the height of the transmitting antenna. In such smooth terrain, the simple method of predicting coverage used by the FCC for over fifty years provides useful approximations of coverage. However, for stations located in rough terrain, such as characterizes many parts of the Phoenix area, the FCC contour projections fail to provide a meaningful measure of TV coverage.

To analyze coverage in a realistic manner, Hammett & Edison, Inc. developed a complete system to determine and show the actual effects of terrain on coverage. This system uses the sophisticated propagation algorithm called the Terrain Integrated Rough Earth Model ("TIREM"), developed at the Joint Spectrum Center ("JSC"), formerly Electromagnetic Compatibility Analysis Center ("ECAC"), in Annapolis, Maryland. TIREM uses detailed terrain profiles to compute values of basic transmission loss from point-to-point. The model evaluates the profile between two sites and, based on the geometry of the profile, selects automatically the most probable mode of propagation from various knife-edge models, a rough-earth diffraction model, and line-of-sight models, including Longley-Rice. When combined with the United States Geological Survey 3-second terrain database and the 2000 U.S. Census, the TIREM model is believed to be the most accurate available means of predicting signal strength when details of terrain along the propagation path are known.

As discussed in the first section, the Commission's definitions of "Principal Community" (and also "Grade A" and "Grade B") coverage are based fundamentally on the use of outdoor receiving antennas. Indoor antennas are less efficient collectors of the television signal; thus, the use of indoor antennas requires greater field strengths. As shown above, a nominal field strength of 101.5 dBu is a more useful indicator of coverage for viewers having indoor back-of-set antennas. Predictions of population coverage for KDRX-CA and the seven full-service UHF stations in Phoenix are shown in the table below. In addition to the 101.5 dBu signal level, coverage was also calculated at the 90 and 80 dBu levels.

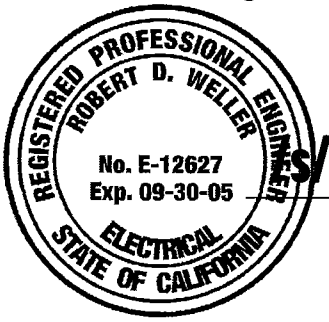
Signal	Hispanic Persons (thousands), 2000 U.S. Census								
Level	KNXV	KPAZ	KTVW	KDTP	KUTP	KPPX	KASW	Median	KDRX-CA
101.5 dBu	688.8	701.3	723.6	700.7	738.5	746.0	732.1	723.6	348.0
90	761.6	764.5	767.1	760.9	780.0	784.3	777.8	767.1	722.5
80	788.0	789.3	787.7	789.4	801.2	803.9	800.0	789.3	759.9

Table 1. Predicted Hispanic population coverage of seven full-service UHF television stations in Phoenix area, plus KDRX-CA. The median value for the full-service stations is also reported for comparison.

At each signal level, the typical (median) population coverage was determined among the seven full-service stations. It is seen that the typical full service station provides 108%, 6.2%, and 3.9% greater coverage than does KDRX-CA at the 101.5, 90, and 80 dBu levels, respectively. Thus, if the Telemundo network were to be broadcast from a full-service station, these improvements might be expected, if such full-service facilities were typical of other stations in the market.

White Area at Holbrook if KPHZ Goes Dark

A search was conducted of FCC CDBS records for NTSC stations within 150 kilometers of Holbrook, Arizona.[16] Four other full-service stations were found.[17] The Grade B coverage contours of these stations were projected in accordance with Sections 73.683 and 73.684 of the Rules. None of these stations places a Grade B contour over any portion of Holbrook, so therefore, if KPHZ were absent, Holbrook would become a so-called "white area," being located outside the Grade B coverage contours of all full-service stations.



/s/ **Robert D. Weller**
Robert D. Weller, P.E.

November 30, 2004

[16] NAD27 Geographic Coordinates from 2000 U.S. Census TIGER data: N34° 54' 25.8" W110° 09' 43.9".

[17] KNAZ-TV, Channel N02, KTFL, Channel N04, KCFG, Channel N09, and KFPH, Channel N13, all licensed to Flagstaff.